

Development of ODS Heat Exchanger Tubing

Project Lead




Special Metals
Corporation
Huntington, WV

Description

Special Metals Corporation (Huntington Alloys) and partners will develop Oxide Dispersion-Strengthened (ODS) tubing for high temperature heat exchangers that will be used in Vision 21 power plants. The main limitations of current ODS tubing are their poor weldability and relatively poor circumferential creep strength at elevated temperatures. Thus far, these two characteristics have restricted ODS materials to mostly non-pressure containing applications. Current conventional heat exchanger alloys have a maximum operating temperature of approximately 732°C/1350°F. Also, the maximum practical limit for current wrought Ni-base superalloys would be 860°C/1580°F. This Vision 21 project will use novel tube processing modifications to develop ODS tubes with sufficient strength for long term use at much higher temperatures (T>1093°C/2000°F). In addition, advanced welding techniques will be used to develop a joining method which will produce adequate joints on ODS materials.

Duration: 9/27/00 - 10/1/03

Product Support Areas

Gasification Technologies	Combustion Technologies	Sequestration	Environmental & Water Resources	Advanced Turbine & Engines	Fuel Cells
					



Project: 40970
Code: SMC-2

Contact Information

Robert Romanosky
NETL Product Manager
(304) 285-4721
robert.romanosky@netl.doe.gov

Richard Read
NETL Project Manager
(412) 386-5721
richard.read@netl.doe.gov